

**In the Specification:**

Please delete the subtitle "**PREFERRED EMBODIMENTS OF THE INVENTION**", which is immediately before paragraph 0017, and replace it with the subtitle "**BRIEF DESCRIPTION OF THE DRAWINGS**".

Please amend paragraph 0020 as follows:

[0020] The schematic of the excitation technique employed to operate the TEA CO<sub>2</sub> laser wherein the spiker and sustainer like actions have been integrated into a single pulser network with the help of a coupling inductance [8] is shown in Figure 2. Such an integration has made possible a ~~single-source~~ single high voltage d-c source [9] to power and a single switch [SG<sub>1</sub>] driven pulser to control all the three discharges viz., the pre, the spiker, and the sustainer discharges as against the conventional spiker sustainer excitation scheme requiring two sources and two switches to achieve the same. The usage of a two stage Marx generator [10] allows the condenser C<sub>1</sub>, on closure of switch SG<sub>1</sub>, to power the pre discharge. Alongside the preionisation, on closure of SG<sub>2</sub>, the main condensers C<sub>1</sub> and C<sub>2</sub> come in series and charge transfer through the inductance [8] causes the voltage across the spiker condenser C<sub>sp</sub> to build up rapidly as shown in FIG. 3 (a). Fig. 3 (b) represents the current flowing from the main condensers following the closure of the spark gap SG<sub>2</sub>. The first forward cycle of the current pulse charges up the spiker condenser C<sub>sp</sub> to its peak voltage. As this high voltage impulse is impressed across the inter electrode gap, it closes leading to the flow of the spiker current. This arrangement automatically

delays the main discharge with respect to the pre discharge. The small delay can be readily measured from the temporal wave-forms of Figure 3 and has also been corroborated by adopting the delay measuring method of Kumar et al [A. Kumar, R. B. Bhatt, D. J. Biswas, N. S. Banerjee, A. Mokhriwale, and U. Nundy, Meas Sci Technol 12, 1739 (2001)] based on the collection of light originating from the preioniser and main discharges separately. The initial voltage to which the main condensers are charged and the values of  $C_1$ ,  $C_2$ ,  $C_{pre}$  and  $C_{sp}$  are so chosen that after the switching of the Marx Bank, the voltage across the preionised inter-electrode gap results in an  $E/N$  appropriate for the initiation of the discharge. The reduced voltage across the main condenser, by virtue of its powering the preioniser discharge and spiker discharges, in conjunction with the inductance [8] maintains an  $E/N$  condition suitable for the sustenance of the discharge. Decoupling of the two discharges viz., the spiker and the sustainer and the tailoring of the sustainer pulse by making use of the inductance [8] resulted in a condition where glow discharge could be reliably obtained even in the absence of helium under wide range of operating conditions. The inductance [8] plays a very crucial role as it controls the delay between both pre and spiker and spiker and sustainer discharges in addition to deciding the rate of rise of voltage across the electrodes.